GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

STARRED QUESTION NO:115
ANSWERED ON:23.11.2016
BRICS Event
Chavan Shri Ashok Shankarrao;Radhakrishnan Shri T.

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the Government hosted a five day event involving about 50 young scientists/researchers from BRICS countries in Bengaluru recently and if so, the details thereof along with the aims and achievements of the summit;

(b) the fields from which these participants were drawn;

(c) the details of the distinguished persons of BRICS countries who attended the event, country-wise;

(d) the details of the issues discussed and opinions exchanged about the challenges faced by BRICS countries during the summit; and

(e) the other steps taken/being taken by the Government to build a BRICS innovation corporation?

Answer

MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND EARTH SCIENCES
(DR. HARSH VARDHAN)

Â´Ã‰YÃ‰Ã‰xÃ‰ AÂ´Ã‰Ã† |Ã‰Ã‰Ã¨tÃ‰Ã‰Ã¤Ã‰ÃŠMÃ‰BÃ‰EÃ‰Ã’ Ã Ã‰Ã†jÃ‰Ã‰Ã’ +Ã‰Ã‰Ã¨Â® {Ã‰ÃŸÂ´Ã‰Ã‰Ã’ Ã‰ÃŠÂ´Ã‰YÃ‰Ã‰xÃ‰ Ã Ã‰Ã†jÃ‰Ã‰Ã’
(bÃ‰. cÂÃ‰Ã‡ Â´Ã‰vÃ‰Ã‡xÃ‰)

(a) to (c): A statement is laid on the Table of the House.

STATEMENT AS REFERRED IN REPLY TO PARTS (a) TO (e) OF LOK SABHA STARRED QUESTION NO.115 FOR 22/11/2016 REGARDING BRICS EVENT

(a) Yes, Madam. The Government of India through Department of Science & Technology hosted a 5 day event "BRICS Young Scientists Conclave" during 26-30 September 2016 in Bengaluru involving scientists' researchers from BRICS countries. The details of aims and achievements of the summit are as under-

The main aims of the Conclave were-

(i) To bring together brightest young minds from BRICS countries on to a single platform, allowing intense interaction to look for avenues of transformative changes to most pressing problems of the society through scientific exploration and technological innovations.
(ii) to seed a "BRICS Scientific Identity" through the establishment of a pan-BRICS network of young talents.
(iii) to harness BRICS Youth connectivity by networking, sharing of knowledge and ideas for resolving common societal challenges through research and innovation and strengthen advancement of skill & research competencies of youth primarily in the age group of 22-35 years drawn from science, engineering other allied disciplines.
(iv) To build BRICS next generation leadership in Science and Technology through creative youth with capacity and capability to accelerate change individually and collectively (BRICS Youth Alummi).

Some of the major achievements (outcomes) of the BRICS Young Scientists Conclave are as below-

The Conclave participants, as a part of their interactions were divided into groups, with special focus on three themes: Computational Intelligence, Energy Solutions and Affordable Healthcare. Some of the recommendations for BRICS STI collaboration were made by these thematic groups as given under-

I. Computational Intelligence

Computational Intelligence (CI) holds the potential to provide breakthrough solutions to many applications of critical importance to the BRICS countries. In all such applications, there is a repeated need to perform analytics over large-scale, heterogeneous, and multi-modal data. For example, an effective pandemic containment system needs to track and contain a pandemic by integrating human travel and mobility logs, information from social networks, gene sequencing data, and demographic data, among others. Such a system may also be used for disaster alert and response, smart material synthesis, efficient grid management, and many more.

Create a unified repository of traditional knowledge from all BRICS countries and make it widely available.

Development of solutions using computational intelligence will require access to large data and computing capabilities. This calls for greater resource sharing among BRICS countries. In order to foster collaboration among scientists from BRICS countries, there should be frequent and focused workshops, especially in emerging areas such as Computational Intelligence.

II. Energy Solutions

There are several problems which plague these four sub-domains of Energy and focused efforts are required to come up with real life solutions. These solutions have to incubate from the labs/ universities but should be implemented by the government/regulatory bodies with the support

from industry. The following three collaborative project ideas were suggested-

i. Optimization of electric power load profiles in BRICS countries
ii. Gap analysis on country electricity generation and applicability of distributed renewable energy generation in localized areas
iii. Development of Hydrothermal Processing to recover Energy-Water-Fertilizer from Wet Biomass

III. Affordable Healthcare

Thematic areas: Providing healthcare

Under the theme of collaborative efforts for affordable healthcare among BRICS countries, collaborative partnership were suggested, as below-

1. Early Diagnostics
An early diagnosis of different diseases might help to reduce the overall burden of cost of treatment required during later stages of the disease. Further pro-active and personalized medication is the need of the hour in order to prevent diseased condition. Development of potential biomarkers for early detection as well as progression of non-communicable diseases using non/minimally invasive biomaterials (blood/fecal samples).

2. Therapeutics

In therapeutics, following collaborative activities were suggested:

i. Disease-specific probiotics
ii. Fastening wound healing
iii. Targeting disease-inducers by genetic engineering Gene silencing technology
iv. Exploring traditional medicines.
(b) Participants were drawn from the following fields:-
i. Affordable Healthcare
ii. Computational Intelligence
iii. Energy Solutions

(c) The list of participants including speakers and young scientists / researchers who attended the event, country-wise is given below-

RUSSIA
(1) (2) (3)
1 Spechenkova Nadezhda Andreevna Koltzov Institute of Developmental Biology of Russian Academy of Sciences
2 Martyanov Artem Prokhorov General Physics Institute, RAS
3 Yamaev Renat
4 Dronov Alexey Senior Research Fellow, National Research University of Electronic Technology (MIET)
5 Gornovskii Artem Moscow State University of Mechanical Engineering
Kosach Lev Moscow State University of Mechanical Engineering
6 Nadezhda A. Taranova AN Bach Institute of Biochemistry, Research Centre of Biochemistry of RAS
(1) (2) (3)
7 Timoshenko Anastasia Alekseevna Koltzov Institute of Developmental Biology, RAS
INDIA
8 Somsubhra Nath Saroj Gupta Cancer Centre and Research Institute (SGCCRI), Kolkata, India
9 Prabal Goyal Air Liquide, Ecole Polytechnique/IIT Delhi, Chandigarh
10 Partha Pratim Talukdar Indian Institute of Science (IISc), Bangalore
11 Nazia Tarannum Assistant Professor,
Chaudhary Charan Singh University, Meerut
12 Sarmimala Saikia TCS Innovation Labs, New Delhi
13 Naga Vara Aparna Akula CSIR-Central Scientific Instruments Organisation, Chandigarh
14 Nishant Kumar Agrawal Performance Engineering Research Centre, TCS Research, Mumbai
15 Anu Dhar Senior Engineer, Reliance Industries Limited, Dehradun
16 Nagaraj Bhat Scientific Officer, Indira Gandhi Centre for Atomic Research, Kalpakkam
17 Swadha Anand Tata Research, Life Sciences group, Tata Consultancy Services, Pune
18 Bhuvaneshwaran Subramanian School of Medical Science and Technology, Indian Institute of Technology, Kharagpur
19 Shantimoy Kar Indian Institute of Technology, Kharagpur

20 Akshay Vaid Institute for Plasma Research, Gandhinagar
CHINA
21 Zheng Bo Zhejiang University
22 Kui Jiao Tianjin University, Tianjin
23 Li Yangyang China Coal Research Institute, Beijing
24 Yuyang Li Shanghai Jiao Tong University
25 Lian-WenQi China Pharmaceutical University, Nanjing
26 Chong Shen Hainan University, Haikou
27 Weiwei Luo Yunnan Academy of Scientific and Technical Information, Kuming
SOUTH AFRICA
28 Fulufhelo Nelwamondo Executive Director, Council for Scientific and Industrial Research (CSIR)
29 Nicholas Engelbrecht Lecturer, University of North West
30 Henrietta Langmi Key Programme Manager, Council for Scientific and Industrial Re-search (CSIR)
31 Regina Maphanga Senior Researcher, University of Limpopo
32 Natasha Ross Lecturer, University of the Western Cape,
33 Sphumelele Ndlovu PhD Candidate, Hartebeeshoek Radio Astronomy Observatory (HARTRAO)
34 Yahya Choonara Professor, University of Witwatersrand
35 Boitumelo Semete-Makokotlela Executive Director, Council for Scientific and Industrial Research (CSIR)
36 Bongi Mkhize Deputy Director, Department of Science and Technology

(1) (2) (3)
37 Stanley Maphosa International Liaison Manager, Academy of Science of South Africa
38 Molefi Motuku Research & Development, Council for Scientific and Industrial Re-search (CSIR)
Note: There was no representation from Brazil to this BRICS Young Scientist Conclave.

The list of host country speakers at this BRICS Young Scientists Conclave is as below-

1 Dr K Kasturirangan Emeritus Professor, NIAS, Bangalore
2 Prof VS Ramamurthy Emeritus Professor, NIAS, Bangalore
3 Dr VK Saraswat Member, NITI Aayog, Government of India,
New Delhi
4. Prof Ashutosh Sharma Secretary to the Govt of India, Department of Science & Technology, New Delhi
5. Prof K VijayRaghavan Secretary to the Government of India
Department of Biotechnology, New Delhi
6. Mr Rajeev Gupta Secretary, Minister for Youth Affairs, New Delhi
7. Dr Darshan Shankar Vice Chancellor of Trans Disciplinary University, Bangalore
8. Prof DD Sarma Indian Institute of Sciences, Bangalore
9. Dr Sanghamitra Bandyopadhya Director, Indian Statistical Institute, Kolkata
10. Dr Umesh Waghmare Professor and chairman of the Theoretical Sciences Unit, JNCSAR, Bangalore
11. Prof SS Hasan Former Director, IIAP, Bangalore
12. Dr Kanishka Biswas Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru
13 Amb Shyam Saran Chairman, Research and Information System for Developing Countries (RIS), New Delhi
14 Prof Rajaram Nagappa Dean, NIAS, New Delhi
15 Dr Bhaskar Balakrishnan Diplomat (Former Ambassador), New Delhi
15 Dr M Vidyasagar Department of Bioengineering, University of Texas, Dallas, USA (Indian Diaspora)
17 Prof S. Arunachalam Former Professor, IISS
18 Prof Bikramjit Basu Professor, Indian Institute of Science, Bangalore
19 Mr K Venkataramanan Chairman, L&T Hydrocarbon Engineering Ltd
Formerly Chief Executive Officer & Managing Director, Larsen & Toubro
20 Dr. P Goswami Director, NISTADS, New Delhi
21 Prof Sundar Sarukkai NIAS, Bangalore
22 Mr Rahul Narayan Teamindus, Bangalore
23 Mr Ricky Kej 2014 Grammy Award Winner, Bangalore
24 Mr Pawan Kumar Filmmaker, Bangalore

(d) The details of issues discussed and opinion exchanged are indicated as below-

- Interdisciplinary Science for Society and Humanity
- Global Partnerships in Scientific Research
- Making Healthcare Affordable: Corporate Social Responsibility
- Traditional Science and Indigenous Knowledge
- BRICS Policy Reflections on Youth
- Special Address: Energy Foresights, Security and Sustainability
- Global Renewable Development: Opportunities and Challenges
- Thermoelectric Waste Heat to Electricity Generation
- Special Address: Collaborating for the Future
- Special Address: S&T and Diplomacy: Some Perspectives
- Machine Learning in Cancer Biology
- Additive Manufacturing of Materials: A New Paradigm
- Doing More with Less: Pan-BRICS Scientists Opportunity

- BRICS Policy Reflections

(e) The BRICS countries (including Government of India) are in the process of evolving detailed modes and mechanism for building schemes on BRICS Science and Technology Driven Entrepreneurship and Innovation Partnership, BRICS collaborative Research & Development projects and BRICS Innovative Idea Prize for Young Scientists.

****